

WHAT IS CLAIMED IS:

Ans B' 1. A method of producing C_{60} and C_{70} compounds which comprises evaporating graphite in an atmosphere of an inert quenching gas at effective pressures in an evacuated reactor, collecting the quenched carbon product produced therefrom and contacting the quenched carbon product with an extracting non-polar organic solvent under effective conditions to separate the C_{60} and C_{70} compounds therefrom.

2. The method according to Claim 1 wherein the quenched carbon is collected on a collecting substrate.

3. The method according to Claim 1 wherein the C_{60} and C_{70} compounds are recovered from the organic solvent.

4. The method according to Claim 3 wherein the separating step comprises evaporating the solvent.

5. The method according to Claim 1 wherein the solvent is benzene.

6. The method according to Claim 1 wherein the solvent is carbon tetrachloride.

7. The method according to Claim 1 wherein the evaporation of graphite is effected by passing high electrical current through graphite rods.

8. The method according to Claim 1 wherein the inert gas is helium or argon.

9. The method according to Claim 1 wherein the graphite is evaporated at pressures ranging from about 50 torr to about 400 torr.

10. The method according to Claim 9 wherein the pressure is about 100 torr.

11. The method according to Claim 1 wherein the pressure ranges from about 2 to about 3 atmospheres.

12. The method according to Claim 1 further comprising separating the C_{60} compound from the C_{70} compound.

13. The method according to Claim 11 further comprising separating the C_{60} compound from the C_{70} compound.

14. Amorphous or crystalline particulate matter comprised of C_{60} .

15. Amorphous or crystalline particulate matter comprised of C_{60} produced by the process according to Claim 9.

16. A carbon product comprising a mixture of C_{60} and C_{70} .

17. A carbon product, the mass spectrum of which shows a strong peak at mass 720 amu, the infrared bonds of which have four intense lines at 1424, 1183, 577, and 528 cm^{-1} , absorption peaks in the UV at 264 and 339 nm, soluble in non-polar organic solvents and subleues at a temperature of from about 300° to 400°C .

18. The carbon product of Claim 17 produced by the process of Claim 1.

19. A carbon product produced by the process of Claim 10.

20. A carbon product produced by the process of Claim 11.

21. A carbon product produced by the process of Claim 12.

22. A carbon product produced by the process of Claim 13.

23. A formed or molded product comprising C_{60} .

24. The product according to Claim 23 which is extended in at least one direction.

25. A free flowing particulate comprised of C_{60} .

- 1 26. Substantially pure C_{60} .
27. A brownish-red carbon allotrope.
28. Amorphous or crystalline particulate
matter comprised of C_{70} .
- 5 29. A carbon product, the mass spectrum of
which shows a molecular ion at 840 amu, a broad peak in
the ultraviolet at 216 nm, and soluble in non-polar
organic solvents.
30. A formed or molded product comprising C_{70} .
- 10 31. A free-flowing particulate comprised of
 C_{70} .
32. Substantially pure C_{70} .
33. C_{60} .
34. C_{70} .
- 15 35. The vapor of C_{60} .
36. The vapor of C_{70} .

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1 37. A method of extracting C_{60} and C_{70} from a carbon source containing same which comprises contacting the carbon source with a non-polar organic solvent.

5 38. A method according to Claim 37 wherein the C_{60} and C_{70} are recovered from the organic solvent.

39. A method according to Claim 37 wherein the solvent is benzene, carbon tetrachloride or carbon disulfide.

10 40. A method of extracting C_{60} and C_{70} from a carbon source containing same which comprises contacting the carbon source with benzene and recovering C_{60} and C_{70} from the benzene solution thus formed.

15 41. A method according to Claim 37 wherein the carbon source containing C_{60} and C_{70} is produced by evaporating graphite in an atmosphere of an inert quenching gas in a reactor therefor.

42. A method according to Claim 41 wherein the evaporation of graphite is effected by passing high electrical current through graphite rods.

20 43. A method according to Claim 41 wherein the inert gas is helium or argon.

25 44. A method according to Claim 41 wherein the carbon source containing C_{60} and C_{70} is obtained from collecting substrates in said reactor.

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